

MIS is a mirage

*Can a single, integrated system be devised
to fill all of management's information needs?
Only if Superman lends a helping hand*

Foreword

Every company of any size has many information systems, both formal and informal. The formal systems it uses cover such a variety of territory that one man cannot possibly comprehend the mass of details and principles required to design a single supersystem that embraces them all. Even a group of systems experts cannot create such a supersystem, the author argues, because the components that must be amalgamated are too different in their natures to be fused

together effectively. After demonstrating the futility of the MIS approach, the author recommends practical steps for reforming defective information systems.

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Some years ago I expressed the opinion that "of all the ridiculous things that have been foisted on the long-suffering executive in the name of science and progress, the real-time management information system is the silliest."¹

I no longer believe this statement is true. We now have something even sillier: the current fad for "the management information system," whether it is called the Total System, the Total Management Information System, the Management Information System, or simply MIS.

I certainly do not mean to suggest that a company does not need good management information systems—nothing could be further from the truth. But the notion that a company can and ought to have an expert (or a group of experts) create for it a single, completely integrated supersystem—an "MIS"—to help it govern every aspect of its activity is absurd.

For many businessmen, it is probably inconceivable that the lofty phrases and glittering

promises surrounding the MIS conceal a completely unworkable concept. Yet this is exactly what I propose to demonstrate—that a company that pursues an MIS embarks on a wild-goose chase, a search for a will-o'-the-wisp.

Let me first try to explain what I understand by the "MIS concept" and examine its alleged advantages, and then show why the concept is unworkable. Then I shall be in a position to recommend some practical remedies for defective management information systems, which certainly constitute a real problem for executives today.

Confusion between terms

It is difficult even to describe the MIS in a satisfactory way, because this conceptual entity is embedded in a mish-mash of fuzzy thinking and incomprehensible jargon. It is nearly impossible to obtain any agreement on how MIS problems are to be analyzed, what shape their solutions might take, or how these solutions are to be

1. "Myth of Real-Time Management Information," HBR May-June 1966, p. 123.

implemented. This confusion makes it very difficult to attack the concept, because no matter what assumptions a critic makes about the nature of the MIS approach, a proponent can always reply that *his* use of the term is different from others'.

But there is a common thread which runs through the various uses of the term, a thread that at once unifies but also subverts the MIS literature. This thread is the computer-based information system.

Computer-based activity . . .

Wherever the MIS is discussed, it is almost invariably stated that a management information system does not necessarily require a computer and that many forms of management information are not computer-based.

Yet, if one looks at what is actually being discussed, he quickly discovers that the term "MIS" is used, essentially, to stand for "computer-based information systems." For example, a recent article in *Business Week* read as follows:

"[Some], concerned that systems analysts are . . . a 'mixed bag' whose training and knowledge are a hit-or-miss proposition, are convinced that management information systems (MIS) is the emerging field in business administration. Both Wharton and MIT have tailored programs especially for systems specialists, but no school has gone further than the University of Minnesota, whose B-school now offers MS and PhD degrees in management information systems and has launched an MIS research center. Since the center's opening three years ago, MIS Director Gordon B. Davis and his staff have worked to develop 12 new systems-related courses—from on-line, real-time systems to a seminar on software. In addition, the program's 50 MS and 22 PhD candidates spend a good portion of their time alone and in teams at work on actual computer problems in industry."²

It seems evident to me that MIS education as described here is principally education in computer-based information systems.

It is vital to note, first of all, that the information generated by this kind of system does not include a great deal of the information that is most important to management—especially, important *qualitative* information. Second, a specialist group that develops such a system is usually responsible for implementing only one part of any of a company's individual manage-

ment information systems—namely, that part that interfaces directly with the computer. For example, such a group has little (if anything) to do with specifying the nature of an accounting and financial control system, although it may be responsible for the computer programming this system employs.

My conclusion, therefore, is that such a group has little impact on most of the information supplied to management, particularly at upper levels. Consequently it is ridiculous to say that it creates (or *can* create) a total management information system.

. . . vs. MIS

To the extent that MIS refers only to company information systems that use a computer base and to the extent that everyone understands this limitation, I have no serious quarrel with the trend to MIS; it is vital that management tightly control its computer-based information systems, and in general the so-called MIS groups seem designed to guarantee a tight rein to management.

In my experience, however, such a limited definition of MIS is not what advocates of this approach to information systems mean when they use the term. They intend something novel and far more global, some entity that can provide revolutionary benefits we cannot derive from the traditional approach. Walter Kenneron suggests this definition of the MIS:

"A management information system is an organized method of providing past, present and projection information relating to internal operations and external intelligence. It supports the planning, control and operational function of an organization by furnishing uniform information in the proper time-frame to assist the decision-maker."³

This is approximately what I perceive most people to mean by MIS. And if this definition seems grandiose, I can only remark that "*the management information system*" describes a grandiose idea. If the definition were less global in its scope, it would not measure up to the term. If, for example, one were to limit the definition to the context of a company's financial accounting programs, he would have to speak of the *financial* MIS of the company, rather than its general MIS.

2. June 5, 1971, p. 96.

3. "MIS Universe," *Data Management*, September 1970.

However, in practice, no such limitations are intended. Kenneron's inclusive definition of the MIS approach is quite consistent with the nearly universal benefits claimed for it.

The MIS approach

Given this inclusive definition, how is management to apply it? In other words, how should management think about the problem of setting up an MIS?

Fundamental assumptions

First, it appears that if management wishes to subscribe to the theory of the MIS, it must make up its mind to accept two fundamental (if highly questionable) assumptions that are quite different from traditional ones made in this area:

1. Management information is a subject for study and specialization. That is, it is sufficiently homogeneous so that a set of principles and practices can be established for evaluating all management's information needs and satisfying them. In short, the MIS approach attacks all the problems of management information as a whole, rather than by individual areas, such as finance and marketing. This homogeneity is a necessary assumption, since without it there is no reason why general solutions to a management's information requirements can be found.

2. The systems approach can and should be used in analyzing management's information requirements. Proponents claim the systems approach is necessary for mastering the sprawl of requirements and for synthesizing the general MIS solution. (I shall have more to say about the systems approach later.)

Diagnosis & development

Once management has accepted these two assumptions, it can begin to develop an MIS program. As the theory goes, there seem to be two techniques for setting to work:

- Management can hire an MIS expert to act as a superconsultant to the president of the company. This expert studies the types of problems that the president must solve, the decisions that he must make, and so forth, and recommends methods for satisfying the president's total information requirements. He then drops to lower levels of management and provides the same services there.

In general, the expert depends on others to implement his recommendations. For example, the controller becomes responsible for changing the cost accounting system in the way the consultant recommends.

- Management can create a staff department that reports to the top. This group is responsible for the company's computer-based systems but also provides the same type of diagnoses and evaluations as the superconsultant.

The staff group, unlike the consultant, usually has responsibility for implementation.

Its alleged advantages . . .

Under this approach, then, either a single person or a group of persons is responsible for developing and overseeing the construction of the entire management information system. This concentration of authority and responsibility in the hands of systems experts supposedly creates a number of significant advantages:

- Experts schooled in the MIS "discipline" can analyze management's information needs more effectively than can the people traditionally responsible for satisfying them. Moreover, these experts can better determine which techniques will best meet these needs.

- Because the MIS is developed as a unified, single system, rather than as a number of separate systems, it is completely coordinated and completely consistent.

- Information needs are determined from the top down. Hence the top will be in better control; the frequent practice of letting lower management decide what information will pass upward is eliminated.

- The company reduces its direct information costs by eliminating systems. Also, the MIS itself is cheaper to run because it has been designed by information experts who know the most economical means for satisfying management's information needs.

- Since one expert or group is responsible for the system, management's desire that the system be kept up-to-date can readily be satisfied.

In short, the proponents promise, experts can design an MIS that is more effective, more efficient, more consistent, and more dynamic than the haphazard aggregate of individual systems a company would otherwise employ.

These are impressive advantages that any manager would enjoy, and doubtless this ap-

proach was developed to solve the real problems of poor information that have been plaguing management with increasing frequency. The growing complexity and the pace of change of modern business, especially in the last ten years, have surely made many information systems obsolete and many more inadequate for present tasks.

Equally, the last ten years have seen the extensive development of information technology, management science, and systems analysis—a development that has been accompanied by rapid growth in the number of experts working in information systems.

To some—that is, the proponents of MIS—it seemed logical to centralize the development and control of information systems in the hands of these experts. After all, the problems that beset information systems have been the result of change and growth, they reasoned; and these problems could perhaps be solved by using the new information technology that had been developing simultaneously.

Several companies have tried this approach, and many people currently advocate it. In spite of its apparent logic, however, I know of no company in which it has worked out. This fails to surprise me because, as I have already implied, I believe the whole MIS approach is fundamentally fallacious.

... @ its real fallacies

There are four fallacies and one serious misconception inherent in the MIS approach, as I have described it. The fallacies are these:

◇ Management information is sufficiently homogeneous so that it can be made an area of specialization for an expert.

◇ If the different information systems ordinarily used by a company are developed separately, the resulting management information system will necessarily be uncoordinated and therefore inefficient and unsatisfactory.

◇ The “systems” approach is a new boon to business administration.

◇ It is practicable to centralize the control over a company's entire management information system.

The misconception is this:

◇ The specialist expertise that creates a good logistics system for a company can extend its talents into the broad domain of general com-

pany activity and create a general management information system.

There is no reason to suppose an MIS group can actually do this—in fact, there is good reason to think it cannot.

Let me refute these errors one by one.

1. The true MIS expert does not and cannot exist.

A complete management information system consists of such a huge assortment of different types of activities that no man can possess a broad enough set of special skills to apply to even a small proportion of them. Consider the skills required to build any one of these individual information systems.

The financial accounting and control system: This includes preparation of financial statements, development of budgets and long-range plans, analyses of capital investments, publication of product costs, and so forth.

Traditionally, the controller is responsible for all these financial subsystems; with respect to the financial information systems, he plays the role that the MIS expert is supposed to play in the general management information systems. In complementary fashion, the MIS expert must have a thorough understanding of the controller's systems function.

The logistics information system: This system controls the flow of goods from the purchase of raw materials to the physical distribution of the finished products. Next to the financial control system, it is probably the most comprehensive information system in the typical manufacturing business.

A logistics system normally consists of several subsystems of varying degrees of independence. For example, there could be distinct systems for different product lines. Within each product line, furthermore, there could be subsystems for procurement, production scheduling, finished goods, inventory control, and so forth, and still others for plant utilization and expansion. Depending on its industry, a company has a larger or smaller number of complex, interrelated logistics information subsystems.

The critical point to note here is that the logistics information system is almost completely different from the financial information system. In point of fact, most of the skills needed to develop financial information systems are of

no use in developing logistics information systems and vice versa. Even the user relationships are different. In building a financial information system, the controller develops a system that provides information for management outside the finance function, whereas logistics information is normally developed and used by the people directly concerned with logistics.

Furthermore, logistics subsystems frequently have little in common with each other, so that an expert in one type of subsystem might not be able to transfer his expertise to a different type. For example, there may be little or no similarity between a procurement information system and a finished-goods distribution system. Like the financial system, the logistics information system or subsystem is a job for a specialist.

The marketing information systems: Like the two systems just described, the marketing information system can also consist of a number of subsystems. A company may maintain separate subsystems for separate product lines; and within a product line, it may maintain further subsystems for advertising and sales promotion, short-term sales forecasting, long-term sales forecasting, product planning, and so forth.

Again, the critical point is this—a marketing information system is almost completely different from the other two systems. Consequently, expertise in either or both of the other systems would be of limited value in developing a marketing information system and vice versa.

Legal services, industrial relations, and public relations: One of the major purposes of each of these staff functions is to provide top management with specialized information different from that provided by any other staff office and different from that provided by the three information systems previously described.

R&D reporting: The information system management requires in this area is distinct from all others, and expertise in these other areas offers limited help in developing an R&D information system.

In short, except in the small company (which probably needs only simple systems), there are several information systems that have very few similarities and many wide differences. Consequently, it makes no sense to regard the processes of developing and implementing these several management information systems as

constituting a single and homogeneous activity.

I conclude that few, if any, individuals have the training to call themselves experts in management information systems. Indeed I believe it is much more practical to teach the new information technology to the functional experts than to teach information technologists functional specialties. After all, the man who could master all the functional specialties—the true MIS expert—would have to be an intellectual superman; and hence he does not and cannot exist except, perhaps, as a very rare exception.

If an MIS can be implemented at all, it can only be implemented by a staff group, and one of considerable size.

2. Coordinated systems for functional areas can be developed without a 'total systems approach.'

"Unless you develop the MIS as a single, integrated system, all you will get is a bunch of unrelated, uncoordinated, ineffective systems." If I have heard this statement once, I have heard it a hundred times; and it still is not true.

I have seen many systems that have intricate interfaces with one another and that are still efficient and effective. In the automobile industry, for example, the development of a new model car involves many functions—styling, engineering, product planning, finance, facility planning, procurement, and production scheduling. Each functional unit develops its internal information system for controlling its part of the operation; in addition, at each interface, the functional units exchange the information necessary to maintain coordination between them.

If an information system is ineffective, the cause is very likely to be the incompetence of the people responsible for it, *not* the absence of the general MIS approach. In this connection I might quote William M. Zani:

"Most companies have not conceived and planned their management information system with any significant amount of attention to their intended function of supporting the manager as he makes his decisions."⁴

Zani goes on to suggest a new approach to developing an MIS as a solution to this situation. My solution would be to make some personnel changes, because anyone who fails to design an information system for its users is incompetent.

Such incompetence is very prevalent. I have seen dozens of companies where management is

4. "Blueprint for MIS," HBR November-December 1970, p. 95.

not receiving half the relevant accounting information that could be made available if the financial information system had been properly designed in the first place. And although I am not sufficiently expert in other types of information systems to know whether the same situation exists there, I have no reason to believe accounting is worse than the others.

To assert that such problems as these result from the independent development of different information systems, rather than from sheer and ordinary incompetence, is simply ridiculous—and to recommend the “MIS cure” is even more ridiculous. To ensure that a company has efficient information systems which are well coordinated with one another, management need only bear down on the personnel in the various functional areas who are responsible.

3. *‘The systems approach’ is merely an elaborate phrase for ‘good management.’*

There are many definitions of the systems approach, but the following is representative:

“The systems approach to management is basically a way of thinking. The organization is viewed as an integrated complex of interdependent parts which are capable of sensitive and accurate interaction among themselves and with their environment.”⁵

What does this mean? It took me some time to figure it out.

When the systems approach first appeared in the literature, I had a great deal of difficulty understanding the concept; and my confusion increased until I started asking people this question: “What would an executive do differently if he were to adopt the systems approach in place of the traditional one?”

Without exception, the replies I received made assumptions about the traditional approach that simply are not valid. For example, some assumed that the executive perceives his organization as static; others, that he fails to consider the interaction of related variables. In other words, the replies were predicated on an incompetent, even a stupid, executive.

Thus I concluded that the alleged advantages of the systems approach really result from the difference between an adequate and an inadequate manager. If you doubt this, I invite you to ask the question I did the next time you hear

someone champion the systems approach to management.

It is therefore not surprising that good managers follow the systems approach, because this approach is merely the ancient art of management. Would a competent business executive plan a major expansion program without considering the sources and timing of funds, the availability of people, the possible reactions of competitors, and so forth? Certainly not. And he would consider them in relation to one another.

My conclusion, then, is that the systems approach is precisely what every good manager has been using for centuries. The systems approach may be new to science and to weapons acquisition, but it is certainly not new to business administration.

At this point, let me summarize briefly. First, an MIS would have to be developed by a group composed of experts in the various types of information systems used by management. This must be so because the possibility that a single individual will be expert in *all* types of information is remote. Second, the approach taken by the MIS group would be approximately the same as that taken by any competent and expert manager working in one of the functional information systems.

How, then, does the MIS approach differ from the traditional approach to information systems?

The only difference I can see is that a company's management information system would be the responsibility of one centralized group; whereas, traditionally, the information systems experts have been located in the various functional areas. This brings me to the last fallacy—that such centralization is practicable.

4. *Centralizing the control of a company's information systems in a staff group creates problems that are insoluble; therefore it is simply not feasible.*

It is theoretically possible to assemble a staff MIS group that is sufficiently large and diversified to have expertise in all the formal information systems described earlier—marketing, manufacturing (logistics), finance, and so forth. But to organize this group properly, the company should appoint an executive vice president for information to supervise the work of the group—that is to say, the systems of the staff vice presidents, the controller, the logistics information group, the marketing information group, and so

5. Spyros Makridakis, “The Whys and Wherefores of the Systems Approach,” *European Business*, Summer 1971.

forth. But what would this accomplish? Let me ignore the fact that no sane manufacturing or marketing executive would delegate the responsibility for his information system.

One result might be that this executive vice president for information would promote better coordination between functional areas. On the other hand, of course, the problems of coordination would drastically increase in the manufacturing and marketing areas because the responsibility for the information systems had been separated from the people who hold the line responsibility. And in any event, simply having all of the information groups, including the MIS group, report to a single executive would hardly change the *approach* to developing information systems. Thus the special value of the MIS approach is still obscure.

In short, it seems to me that if any of the MIS people are competent to tell the functional experts what to do, they should be in the functional area. I see no logical way to centralize the responsibility for all the management information systems.

Significant misconception

If the MIS approach is as fallacious as I believe it to be, how has it been able to maintain even a superficial credibility?

The answer, as I have hinted earlier, is this: the early success of information technology in renovating logistics systems has been so great that there is a natural inclination to try the same methods on the company information systems as a whole.

This misconception has evolved in a natural enough way. Responsibility for a logistics system has traditionally been divided among several executives—e.g., in purchasing, in manufacturing, and in marketing. This divided responsibility has often resulted in poor coordination throughout the system. Furthermore, the people responsible for the system have often been old-fashioned in their methods and relatively unskilled in information techniques. Thus a vacuum has frequently existed with respect to the responsibility for a company's logistics information system into which the burgeoning information technology has moved easily and successfully.

However, as we have seen, there is no reason to suppose that the principles of information technology used so successfully in the logistics area can be generalized to apply to the other

management information systems within a company or to the management information system considered as a whole.

Thus, when a group of experts has completed its overhaul of the logistics system, it will *not* be in a position to attack the financial, marketing, or any other system. First, the group will not have the specialist expertise required. Second, the type of problems the group may have found in the logistics area will almost certainly not exist in other areas if the staffs in these other areas are competent. Third, there will be no responsibility vacuum as in the logistics area; the MIS group will not be in a position to take over by default.

If you have any doubt about the validity of these statements, I suggest that you examine the kinds of things that any MIS group is doing. Outside of the routine computer systems, you will almost certainly find them concerned basically with parts of the *logistics* information system only.

Roots of poor information

So far this article has been quite negative. Now I should like to suggest some positive actions to mitigate the information crisis, if it can be called that. Before I propose these actions, however, it is appropriate to review the causes of management information problems.

As I have pointed out, the principal cause of poor information systems is that we have put incompetent or ineffective people in charge of these systems.

The secondary causes are somewhat more complicated.

Growing use of computers

Computers and computer-related systems activities have been growing very rapidly, and currently the cost of these activities has become very significant in many companies. In spite of large expenditures, however, the quality of the information available to management appears unimproved.

One reason is, of course, that some computer installations are not run effectively. Another is that the computer-based information systems have been oversold; management has been led to expect much more than it has received. In other words, management's dissatisfaction with its information occurs, not from any deteriora-

tion in its information systems, but from its inflated expectations.

Interface conditions

Individual systems change and improve at different rates, and this creates problems at the interfaces between them. For example, operations research techniques, used in modern logistics systems, require much more sophisticated cost accounting information than traditional cost accounting techniques can generate. Problems can also occur at the interface between production and marketing, because production-scheduling techniques are frequently much more sophisticated than the techniques ordinarily used in market forecasting.

In general, the benefits of advanced techniques may be largely lost where they are dependent on primitive ones. (To some extent, of course, the problem of proper coordination at the interfaces reflects the competency of the staff involved. Other things being equal, only an incompetent would use an advanced technique whose effectiveness would be undermined by inadequate support.)

Rapidity of change

Many companies are changing very rapidly, and it is necessary that their information systems keep pace. In some companies, information systems are *not* keeping pace. To some extent, this is caused by the inability of the staff personnel traditionally responsible for information systems to react to change. After all, many people who were once perfectly adequate in a relatively static situation become ineffective in a dynamic situation.

Greater management challenge

Management must always operate with insufficient information. And frequently, the more important the decision, the greater the uncertainty. In many areas the truth of these statements is becoming more salient because, while the role of management is becoming more complex, the new information technology is not helping significantly.

For example, I have spent many years working on control systems for decentralized companies. The problems of control in such companies today are much more difficult than they were ten years ago—increases in size, complexity, and geo-

graphical dispersion have made control much more difficult. Yet the new information technology has been of little help in this area, simply because the problems of controlling decentralized divisions do not lend themselves to computerized or mathematical solutions.

Accordingly, it is important to realize that part of our information crisis results from the nature of the present business environment. We shall simply have to live with it. This does not mean, of course, that we should not continue trying to improve the situation.

Toward real solutions

Any company that believes it is facing genuine management information problems and wants to solve them should consider the following measures.

1. Place competent people in each of the formal information systems.

To my mind there is no question that incompetency is the leading cause of problems in many management information systems. Hence the obvious answer is to retrain or replace the incompetents.

2. Examine the interfaces.

This is best done in connection with system evaluation, and the examination should focus on these evaluative questions:

○ Is there adequate communication between individual groups at all important interfaces?

The executive might bear in mind formal techniques such as scheduled meetings and formal agreements.

○ Does each group involved in an interface know enough about the other interfacing systems to do its job effectively?

This is a question of education. For example, cost accountants should know enough about company operations-research models to be sure these models are providing correct information; or, at the very least, they should be able to explain to the OR group the relevant limitations of the information their group can supply. On the other hand, the OR people should know enough about cost accounting to ask for the right type of data and to appreciate the limitations in the data they receive.

But although this is principally a matter of

education, it may well be that some staff members are not intellectually capable of handling interface requirements, and they may have to be replaced.

3. *Examine the logistics system.*

Originally many logistics systems were organized for manual data processing and have never been changed. Equally, the procurement, production, and distribution functions typically report to different executives, and consequently no one is formally responsible for the logistics information system. Since it is here that computers and information technology are most applicable, management should evaluate its logistics area and,

Readers particularly interested in this topic may wish to consult these previous HBR articles by Professor Dearden:

"Can Management Information Be Automated?" March-April 1964, p. 128.

"Computers: No Impact on Divisional Control," January-February 1967, p. 99.

"How to Organize Information Systems," March-April 1965, p. 65.

"Myth of Real-Time Management Information," May-June 1966, p. 123.

For more perspective on the CBIS-MIS controversy, readers may also find these HBR articles helpful:

Warren F. McFarlan, "Problems in Planning the Information System," March-April 1971, p. 75.

William M. Zani, "Blueprint for MIS," November-December 1970, p. 95.

where appropriate, reorganize it and make a staff unit, responsible for its logistics information system, report to the company officer who directs the logistic system itself.

4. *Organize a central computer group for systems control.*

Computer use will continue to expand, and it is vital that management maintain central control over computers and computer-based information systems.⁶ Such a group should be responsible for overseeing all computer-related work—for long-range planning, coordination, and control of all computer acquisitions and applications. In addition, it should be responsible for coordinating

6. See Warren F. McFarlan, "Problems in Planning the Information System," HBR March-April 1971, p. 75.

computer-based systems and might even undertake the systems and implementation work in a situation where several organization groups use the same data base.

Most companies already have such groups. Some are even called "MIS groups," although, in reality, they have authority only over computer-related work.

5. *Create an administration vice president, if one does not already exist.*

I recommend the creation of an office to which the following report:

- The controller.
- The treasurer.
- The computer and systems group.
- The legal office.
- The industrial relations office.
- Other offices for company relations (that is, public and governmental).
- Organization planning.

The marketing, manufacturing, and R&D groups would continue to be independent.

Such an office has several advantages:

□ It provides better control over the staff activities. The increasing number of staff operations, together with their increasing specialization, has made it nearly impossible for the president to exercise real control here. An administrative vice president can exercise much more effective control over the size and direction of these activities.

□ It provides a practical alternative to locating the computer and systems group in the controller's office. An administrative vice president can provide effective supervision and, at the same time, maintain an objectivity that a controller often finds difficult because of his involvement with specific computer applications.

□ It allows the company to handle miscellaneous projects easily—for example, an evaluation of a functional information system or an analysis of the formal information entering the president's office. To take care of nonrecurring or particularly pressing information systems problems, frequently the best arrangement is to organize temporary task forces that report to the administrative vice president.

□ It simplifies the process of coordinating staff offices.

However, I would not make the administrative vice president or the offices reporting to him

responsible for the *entire* management information system. Marketing, manufacturing, and R&D would all be responsible for their own information systems. Also, the different activities reporting to his office would develop their information systems in relative independence except where interface communications are in question.

Questions for my critics

Inevitably, I shall be accused of setting up a straw issue in this article and then demolishing it.

If the MIS approach really embraces only computer-based information systems or centralized logistics systems, then I *have* set up a straw issue. No harm has been done, however, because I have at least clarified the meaning of "MIS."

But I cannot believe the concept is meant to embrace only this. I have done my best to discover what the MIS approach really is, through talking with its proponents and studying its literature; and this article honestly represents my best understanding.

If I am correct in believing that the approach

pretends to embrace more than computerized systems and logistics, then I have *not* set up a straw issue. And those who doubt my conclusions, negative as these may be, would be wise to ask themselves the following questions before they take up the pen of protest:

○ Which information systems are to be included in the MIS?

○ What kinds of experts are to be included in an MIS group, and what training shall they have?

○ Where is this group to fit into the corporate organization? In particular, what will happen to the staff groups from the controller's office, the legal department, the marketing research department, and so forth?

○ What authority is the MIS group to have? Is it to have authority to design and implement systems, or is it to serve in an advisory function only?

○ What can this group accomplish that cannot be better accomplished by placing information specialists under functional groups?

Arguing the viability of the MIS approach is pointless unless answers to these questions are set forth clearly. And the clearer the answers, I believe, the more transparent the MIS mirage.

Scientists & critics

The criticism of science in the twentieth century is a kind of *lèse majesté* somewhat equivalent to criticizing the Roman Catholic Church in the twelfth century. It is seldom realized that every form of intellectual endeavor with the exception of science has both practitioners and informed critics. These critics in the fields of poetry, fiction, drama, painting, sculpture, music, etc., not only function as interpreters of the practitioners to the general public, but as critics who compare and evaluate the work of the practitioners. A critic who never wrote a poem, composed a score, or painted a picture may perform the valuable service of noting that a particular poem, score, or painting is uninspired, shoddy, or imitative. Furthermore, no one seriously supposes that the work of such critics constitutes censorship or restriction on the free creative spirits of poets, musicians, or painters. But scientists have insisted that any criticism of their work does constitute censorship or a failure to appreciate the necessity for "basic" (which sometimes should be read as trivial or useless) research. . . .

The way things are now, if someone can get by with preempting the use of the term "science" he is relatively free from exposure as a charlatan even if he is one.

Mortimer Taube,
Computers and Common Sense,
New York, Columbia University
Press, 1961, pp. 121, 124.